AMENDMENTS TO THE CLAIMS

1 through 10. (Canceled)

11. (Currently Amended) The inertial sensor according to claim [[23]] 14 wherein said signal conditioning circuits are integral with said silicon wafer and said linear acceleration sensor.

12. (Currently Amended) The inertial sensor according to claim 11 including a ~~device~~ modulator for combining signals and a demodulator for separating signals, said modulator communicating with said demodulator, said modulator connected to said signal conditioning circuits~~, said device~~ and operable to combine the output signals generated by said plurality of signal conditioning circuits into a single output signal that is transmitted to said demodulator, said demodulator operative to separate said transmitted signal into the individual output signals generated by said signal conditioning circuits.

13. (Currently Amended) The inertial sensor according to claim [[23]] 14 wherein said signal conditioning circuits are located remotely from said silicon wafer and said linear acceleration sensor.

14. (Currently Amended) An inertial sensor adapted to be attached to a body comprising:

a base member, said base member being formed from a silicon wafer;

a single ~~inertial~~ linear acceleration sensor element disposed on said base member, said ~~inertial~~ linear sensor element operable to sense a change in ~~a specific motion parameter~~ linear acceleration of said body; and

a plurality of signal conditioning circuits connected to said ~~inertial~~ linear sensor element, with a first one of said signal conditioning circuits being calibrated to sense a first range of change in said ~~specific body motion parameter~~ linear acceleration of said

body and a second one of said signal conditioning circuits being calibrated to sense a second range of change in said same ~~specific body motion parameter~~ linear acceleration of said body, said second range of change in said ~~body motion parameter~~ linear acceleration of said body being different from said first range of change in said ~~body motion parameter~~ linear acceleration of said body, said signal conditioning circuits adapted to be connected to at least one control system, said signal conditioning circuits operable to generate a plurality of electrical output signals with each electrical output signal being a function of said change in said ~~specific body motion parameter~~ linear acceleration while also being within the calibration range associated with said signal conditioning circuit.

15. (Previously Presented) The inertial sensor according to claim 22 wherein said signal conditioning circuits are integral with said silicon wafer and said angular rate sensor.

16. (Previously Presented) The inertial sensor according to claim 15 including a device for combining signals connected to said signal conditioning circuits, said device operable to combine the signals generated by said plurality of signal conditioning circuits into a single output signal.

17. (Previously Presented) The inertial sensor according to claim 22 wherein said signal conditioning circuits are located remotely from said silicon wafer and said angular rate sensor.

18 and 19. (Cancelled)

20. (Previously Presented) The inertial sensor according to claim 13 wherein said signal conditioning circuits are included within an Application Specific Integrated Circuit.

21. (Previously Presented) The inertial sensor according to claim 22 wherein said signal conditioning circuits are included within an Application Specific Integrated Circuit.

22. (Previously Presented) An inertial sensor adapted to be attached to a body comprising:

a base member, said base member being formed from a silicon wafer;

a single angular rate sensor disposed on said base member, said angular rate sensor operable to sense a change in an angular velocity of said body; and

a plurality of signal conditioning circuits connected to said angular rate sensor, with a first one of said signal conditioning circuits being calibrated to sense a first range of angular velocity change and a second one of said signal conditioning circuits being calibrated to sense a second range of angular velocity change, said second range of angular velocity change being different from said first range of angular velocity change, said signal conditioning circuits adapted to be connected to at least one control system, said signal conditioning circuits operable to generate an electrical signal that is a function of said change in said angular velocity of said body.

23. (Canceled)

24. (Currently Amended) The inertial sensor according claim 14 including a ~~device~~ modulator for combining signals and a demodulator for separating signals, said modulator communicating with said demodulator, said modulator connected to said signal conditioning circuits~~, said device~~ and operable to combine the output signals generated by said plurality of signal conditioning circuits into a single output signal that is transmitted to said demodulator, said demodulator operative to separate said transmitted signal into the individual output signals generated by said signal conditioning circuits.

25. (Currently Amended) The inertial sensor according to claim 13 including a ~~device~~ modulator for combining signals and a demodulator for separating signals, said modulator communicating with said demodulator, said modulator connected to said signal conditioning circuits~~, said device~~ and operable to combine the output signals generated by said plurality of signal conditioning circuits into a single output signal that is transmitted to said demodulator, said demodulator operative to separate said transmitted signal into the individual output signals generated by said signal conditioning circuits.

26. (Previously Presented) The inertial sensor according to claim 22 including a device for combining signals connected to said signal conditioning circuits, said device operable to combine the signals generated by said plurality of signal conditioning circuits into a single output signal.